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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/500,991

01/13/2005

Julien Serre

6300-13

1891

30448 7590 03/07/2007  
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EXAMINER

BROADHEAD, BRIAN J

ART UNIT

PAPER NUMBER

3661

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/07/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No. .

10/500,991

Applicant(s)

SERRE, JULIEN

Examiner

Brian J. Broadhead

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 6-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 8 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitations of claim 8 were added to claim 1 by amendment thereby making claim 8 unnecessary.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the grouping of successive segments, the two path graphs, and taking into account only segments that belong to levels higher than the level  $\min f$  when a predetermined threshold is reached, etc., must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

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consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-4, 6-8, 11, 12, 13, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 1 recites the limitation "the graph" in line 13-14. There is insufficient antecedent basis for this limitation in the claim. The remaining rejected claims are indefinite for depending on an indefinite claim.

6. Claims 1 and 8 are indefinite for the limitation "each group comprising exclusively intermediate nodes which do not belong to any other segment with a level which is at least equal to m." What does "at least equal to m" mean? Does it mean less than or equal to or does it mean greater than or equal to?

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claim 9 is rejected under 35 U.S.C. 102(e) as being anticipated by Blewitt, US 2002/0169543.

9. Blewitt discloses attributing a cost to each segment of the network (paragraph 29); developing two path graphs, substantially starting from two points (claim 1); interrupting the development of the two path graphs when they comprise at least one first common interference node (claim 1); determining two minimal cost paths belonging respectively to the two path graphs, and connecting the two minimal cost paths in order to obtain a minimal cost path connecting said two points wherein each graph is developed in a globally concentric manner (claim 1).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-4, 6, 7, 8, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khavakh et al., 2004/0039520, in view of Ashby et al., 6038559.

12. Khavakh et al. disclose a cost is attributed to each segment of the network; a path graph is developed, substantially starting from at least one of the two points (A,B);

and the minimal cost path which connects the two points (A,B) is determined, the method being characterized in that two path graphs are developed, substantially starting from two points (A,B) respectively; the development of the two graphs is interrupted when they comprise at least one first common interference node ( $P_i$ ); the two minimal cost paths belonging respectively to the two graphs are determined; and the two minimal cost paths are connected in order to obtain the minimal cost path between the two points (A,B); and the two graphs are developed simultaneously in paragraphs 100 and 117; in the case when at least one of the points is substantially at the location of a node, the corresponding graph is developed starting from said node in paragraph 35; for at least one of the two points (A,B), at least two adjacent nodes ( $PA,n$ ,  $PA,n+1$ ) of the said point (A) are sought, a non-zero basic cost is attributed to each of these two nodes ( $PA,n$ ,  $PA,n+1$ ), and a single graph is developed starting from these two nodes ( $PA,n$ ,  $PA,n+1$ ) in paragraph 65-66; since the two nodes ( $PA,n$ ,  $PA,n+1$ ) form a segment on which the point (A) is substantially situated the basic cost of each node ( $PA,n$ ,  $PA,n+1$ ) is determined by proportionality starting from the cost of the segment between these two nodes ( $PA,n$ ,  $PA,n+1$ ) in paragraphs 65-66; the segments are classified according to a plurality of network levels; during the development of at least one of the two graphs, the number of segments of the graph which belong to the lowest level  $\min f$  is calculated; and starting from a predefined threshold of number of segments of level  $\min f$  the graph is developed taking into account only the segments which belong to the levels which are strictly higher than the level  $\min f$  in paragraphs 139, 153, and 154; during the development of the two graphs, the number of segments of each graph which belong to

the lowest level minf is calculated, and when the number of segments of level minf has reached the said threshold for the two graphs, the development of the two graphs is continued, taking into account only the segments which belong to the levels which are strictly higher than the level minf in paragraphs 139, 153, and 154;; wherein, having found the said first common interference node ( $P_i$ ), the optimal interference node ( $P_{io}$ ) is sought from amongst the nodes already analyzed, in order to determine the two minimal cost paths which contain the optimal interference node ( $P_{io}$ ) in paragraph 117.

13. Khavakh et al. do not disclose wherein a group of successive segments within a given level  $m$  is sought, each group comprising exclusively intermediate nodes which do not belong to any other segment with a level which is at least equal to  $m$ , and the group of successive segments having the given level  $m$  is substituted by a single segment with the given level  $m$ .

14. Ashby et al. teach a group of successive segments within a given level  $m$  is sought, each group comprising exclusively intermediate nodes which do not belong to any other segment with a level which is at least equal to  $m$ , and the group of successive segments having the given level  $m$  is substituted by a single segment with the given level  $m$  on line 9, on column 14, through line 60, on column 18. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the groups of Ashby et al. in the invention of Khavakh et al. because such modification would speed up route calculation as stated on lines 22-23, on column 14 of Ashby et al.

15. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blewitt, US2002/0169543 as applied to claim 9 above, and further in view of Verstraete, 5170353.

16. Blewitt discloses the limitations as set forth above. Blewitt does not disclose using a bucket algorithm. Verstraete teach using a bucket algorithm on lines 15-21, on column 2. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the bucket algorithm of Verstraete in the invention of Blewitt because such modification would provide a way to use weighting factors in the path determining process as disclosed on lines 55-65, on column 1.

17. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khavakh et al., 2004/0039520, in view of Ashby et al., 6038559, as applied to claim 1 above, and further in view of Gazis et al., 5610821.

18. Khavakh et al. and Ashby et al. disclose the limitations as set forth above. They do not disclose using a server with a communication block, a block for receiving requests from terminals, a block for road network data, classification of road segments, labeling segments, a calculation module for graph development detection of segment level changes, and minimal cost path determination, and a transmission block. Gazis et al. teaches using a server for route calculation instead of a terminal, using a server with a communication block, a block for receiving requests from terminals, a block for road network data, classification of road segments, labeling segments, a calculation module for graph development detection of segment level changes, and minimal cost path determination, and a transmission block on lines 1 on column 3, through line 48, on



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column 4. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a server system like Gazis et al. in the invention of Khavakh et al. and Ashby et al. because such modification would allow calculation of routes on non-static data and to have optimal use of the road network as stated on lines 13-16, on column 1, of Gazis et al.

### ***Response to Arguments***

19. Applicant's arguments with respect to claims 1-4, and 6-14 have been considered but are moot in view of the new ground(s) of rejection.

20. The arguments with respect to rank suppression and intermediate nodes are not persuasive in view of the newly cited reference.

21. The argument, or statement, that Verstraete does not disclose using the bucket algorithm with two cost paths is not convincing since the two graphs are taught in Khavakh et al. It is within the skill or one of ordinary skill in the art to apply the bucket algorithm to the paths taught in Khavakh et al.

22. The argument with respect to Gazis is not convincing because the new rejection relies on Ashby et al. for the "virtual network" which can be carried out on the hardware of Gazis et al.

### ***Conclusion***

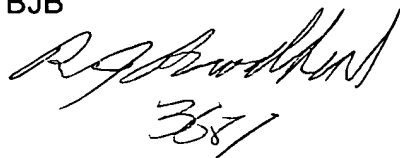
23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Broadhead whose telephone number is 571-272-6957. The examiner can normally be reached on Monday through Friday.

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24. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

25. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BJB

Handwritten signature of R. J. Black and the number 3681.